

IN THE CLAIMS:

Claim 1 (Currently amended) A vasoocclusive device that is adapted to be inserted into a portion of a vasculature by a pusher member for occluding a portion of the vasculature for use in interventional therapy and vascular surgery, comprising:

at least one strand of a flexible material having a distal end and a proximal end,  
said at least one strand being formed to have a first inoperable, substantially linear configuration for insertion into and through a catheter to a desired portion of the vasculature to be treated, and a second operable configuration for framing or occluding the desired part of the vasculature to be treated, said operable configuration including a first portion at said distal end configured to frame or occlude a part of the vasculature to be treated and a second non-linear anchor portion at said proximal end dimensioned to engage the vasculature for securing the occluding device in the vasculature; and  
an inner reinforcement member extending through the first portion and the anchor portion to reinforce the anchor portion, said inner reinforcement member having a distal end fixedly attached to said distal end of said at least one strand, and said inner reinforcement member having a proximal end detachably mounted to the pusher member.

Claim 2 (Cancelled)

Claim 3 (Previously presented) The vasoocclusive device of Claim 1, wherein the anchor portion comprises a plurality of extending loops along a longitudinal axis of the vasculature to thereby provide contact surface area for anchoring the first portion in the vasculature.

Claims 4-5 (Cancelled)

Claim 6 (Previously presented) The vasoocclusive device of Claim 1, wherein said at least one strand of a flexible material has a helical shape.

Claim 7 (Original) The vasoocclusive device of Claim 1, wherein said at least one strand of a flexible material is a wire.

Claim 8 (Original) The vasoocclusive device of Claim 1, wherein said flexible material comprises an alloy of titanium and nickel.

Claim 9 (Original) The vasoocclusive device of Claim 1, wherein said flexible material comprises a metal selected from the group consisting of platinum, palladium, rhodium, gold, tungsten, and alloys thereof.

Claim 10 (Previously presented) The vasoocclusive device of Claim 1, wherein said at least one strand of a flexible material comprises a resilient radiopaque material.

Claim 11 (Previously presented) The vasoocclusive device of Claim 10, wherein said radiopaque material comprises an alloy selected from the group consisting of platinum, tungsten and gold.

Claim 12 (Original) The vasoocclusive device of Claim 1, wherein said at least one strand comprises a super-elastic material.

Claim 13 (Original) The vasoocclusive device of Claim 12, wherein said super-elastic material comprises a nickel-titanium alloy.

Claim 14. (Original) The vasoocclusive device of Claim 1, wherein said at least one strand comprises a shape memory material.

Claim 15 (Original) The vasoocclusive device of Claim 14, wherein said shape memory material comprises a nickel-titanium alloy.

Claim 16 (Original) The vasoocclusive device of claim 1, wherein the anchor portion is formed to reinforce the vessel in the vicinity of the damaged portion of the vasculature to be treated.

Claim 17 (Currently amended) A vasoocclusive device that is adapted to be inserted into a portion of an artery system of a vasculature by a pusher member for occluding a portion of the artery system of the vasculature for use in interventional therapy and vascular surgery, comprising:

at least one strand of a flexible material having a distal end and a proximal end, said at least one strand being formed to have a first inoperable, substantially linear configuration for insertion into and through a catheter to a desired portion of the artery system of the vasculature to be treated, and a second operable configuration, said second operable configuration including a first portion at said distal end configured to frame or occlude a part of the artery system of the vasculature to be treated and a second non-linear anchor portion at said proximal end dimensioned to engage an artery wall for securing the occluding device in the artery system of the vasculature; and

an inner reinforcement member extending through the first portion and the anchor portion to reinforce the anchor portion, said inner reinforcement member said inner reinforcement member having a distal end fixedly attached to said distal end of said at least one strand, and said inner reinforcement member having a proximal end detachably

mounted to the pusher member, wherein said anchor portion is formed to reinforce the artery wall in the vicinity of the [[the]] vasculature to be treated.

Claim 18 (Previously presented) The vasoocclusive device of Claim 17, wherein the anchor portion comprises at least one extending loop, the extending loop being curved about a longitudinal axis to form a hollow cylindrical circumferential pattern of loops about the longitudinal axis to provide a contact surface area to anchor the first portion of the device adjacent the artery system of the vasculature to be treated.

Claim 19 (Previously presented) The vasoocclusive device of Claim 17, wherein the first portion comprises a coiled shape for filling and reinforcing the desired part of the artery system of the vasculature when the vasoocclusive device is implanted at the site in the artery system of the vasculature to be treated.

Claim 20 (Cancelled)

Claim 21 (Previously presented) The vasoocclusive device of Claim 17, wherein said at least one strand of a flexible material has a helical shape.

Claim 22 (Original) The vasoocclusive device of Claim 17, wherein said at least one strand of a flexible material is a wire.

Claim 23 (Original) The vasoocclusive device of Claim 17, wherein said flexible material comprises an alloy of titanium and nickel.

Claim 24 (Original) The vasoocclusive device of Claim 17, wherein said flexible material comprises a metal selected from the group consisting of platinum, palladium, rhodium, gold, tungsten, and alloys thereof.

Claim 25 (Previously presented) The vasoocclusive device of Claim 17, wherein said at least one strand of flexible material comprises a resilient radiopaque material.

Claim 26 (Previously presented) The vasoocclusive device of Claim 25, wherein said radiopaque material comprises an alloy selected from the group consisting of platinum, tungsten and gold.

Claim 27 (Original) The vasoocclusive device of Claim 17, wherein said at least one strand comprises a super-elastic material.

Claim 28 (Original) The vasoocclusive device of Claim 27, wherein said super-elastic material comprises a nickel titanium alloy.

Claim 29 (Original) The vasoocclusive device of Claim 17, wherein said at least one strand comprises a shape memory material.

Claim 30 (Original) The vasoocclusive device of Claim 29, wherein said shape memory material comprises a nickel-titanium alloy.

Claims 31-33 (Cancelled)

Claim 34 (Currently amended) The vasoocclusive device of ~~Claim 31~~ Claim 17, wherein said reinforcement member has a coil shape.

Claim 35 (Currently amended) The vasoocclusive device of ~~Claim 31~~ Claim 17, wherein the reinforcement member is helically wound opposite the formed flexible material.

Claim 36 (Cancelled)

Claim 37 (Currently amended) The vasoocclusive device of ~~Claim 34~~ Claim 17, wherein the reinforcement portion is formed of a wire.

Claim 38 (Cancelled)

Claim 39 (Currently amended) The vasoocclusive device of ~~Claim 34~~ Claim 17, wherein said inner reinforcement member further comprises transverse loops.

Claim 40 (Currently amended) A vasoocclusive device that is adapted to be inserted into a portion of a vasculature by a pusher member for occluding a portion of the vasculature for use in interventional therapy and vascular surgery, comprising:

at least one strand of a flexible material having a distal end and a proximal end, said at least one strand being formed to have a first inoperable, substantially linear configuration for insertion into and through a catheter to a desired portion of the vasculature to be treated, and a second operable configuration for framing or occluding the desired site of the vasculature to be treated, said operable configuration including a first portion at said distal end configured to frame or occlude a part of the vasculature to be treated and a second non-linear portion at said proximal end dimensioned to engage an artery wall for securing the occluding device in the vasculature; and

an inner reinforcement member extending through the first portion and the anchor portion to reinforce the anchor portion, said inner reinforcement member having a distal end fixedly attached to said distal end of said at least one strand, and said inner reinforcement member having a proximal end detachably mounted to the pusher member, wherein the operable configuration for framing or occluding the desired site of the

vasculature further comprises at least one extending loop to anchor the first portion in the vasculature.

Claims 41-43 (Cancelled)

Claim 44 (Previously presented) The vasoocclusive device of Claim 40, wherein said at least one strand of a flexible material has a helical shape.

Claim 45 (Original) The vasoocclusive device of Claim 40, wherein said at least one strand of a flexible material is a wire.

Claim 46 (Original) The vasoocclusive device of Claim 40, wherein said flexible material comprises an alloy of titanium and nickel.

Claim 47 (Original) The vasoocclusive device of Claim 40, wherein said flexible material comprises a metal selected from the group consisting of platinum, palladium, rhodium, gold, tungsten, and alloys thereof.

Claim 48 (Previously presented) The vasoocclusive device of Claim 40, wherein said at least one strand of a flexible material comprises a resilient radiopaque material.

Claim 49 (Original) The vasoocclusive device of Claim 40, wherein said at least one strand comprises a super-elastic material.

Claim 50 (Original) The vasoocclusive device of Claim 49, wherein said super-elastic material comprises a nickel titanium alloy.

Claim 51 (Original) The vasoocclusive device of Claim 40, wherein said at least one strand comprises a shape memory material.

Claim 52 (Original) The vasoocclusive device of Claim 51, wherein said shape memory material comprises a nickel-titanium alloy.

Claim 53 (Original) The vasoocclusive device of claim 40, wherein the anchor portion is formed to reinforce the vessel in the vicinity of the damaged portion of the vasculature to be treated.

Claim 54 (Currently amended) A method for repairing a portion of a vasculature having a vasoocclusive deformity to restore physiologically normal flow to the portion of the vasculature to be treated, comprising the steps of:

providing a vasoocclusive device adapted to be inserted into a portion of a vasculature for occluding a portion of the vasculature for use in interventional therapy and vascular surgery, the vasoocclusive device including at least one strand of a flexible material having a distal end and a proximal end, said at least one strand being formed to have a first inoperable, substantially linear configuration for insertion into and through a catheter to a desired portion of the vasculature to be treated, and a second operable configuration for framing or occluding the desired part of the vasculature to be treated, said operable configuration including a first portion at said distal end configured to frame or occlude a part of the vasculature to be treated and a second non-linear anchor portion at said proximal end dimensioned to engage the vasculature for securing the occluding device in the vasculature, and an inner reinforcement member extending through the first portion and the anchor portion, said inner reinforcement member having a distal end fixedly attached to said distal end of said at least one strand, and said inner reinforcement member having a proximal end detachably mounted to a pusher member;



moving a catheter through the vasculature and to the portion of the vasculature to be treated;

moving said vasoocclusive device through said catheter, and anchoring said anchor portion of said second operable configuration of the vasoocclusive device in the vasculature.

Claim 55 (Previously presented) The method of Claim 54, wherein said anchor portion comprises a plurality of extending loops along a longitudinal axis to thereby provide contact surface area for anchoring the occluding portion of the device in the vasculature.